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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/714,634	CHANG ET AL.
	Examiner	Art Unit	
	Hadi Akhavannik	2624	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after t he mailing date of this com munication, even if timely filed, may re duce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>19 November 2007</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-16</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-16</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 11/19/07 have been fully considered but they are not persuasive.

First, with respect to claim 1, the Applicant argues that Fiete does not disclose the interference model as claimed in claim 1. The Examiner notes that independent claim 1 merely recites "establishing an interference model according to the difference". This claim language is broad and Fiete discloses finding the error in the slopes to correct the streaks, see for example figures 4a-4b. The Examiner believes that finding the errors reads on establishing an interference model. Next, the Fiete reference creates a recovery model by determining the correct values of the asubx and bsubx as it the system corrects each pixel value in the column using asubx and bsubx. So, while the specification of the present invention may function differently from Fiete, the Fiete reference reads on the current claims.

Therefore, the current rejection stands. Please see the final rejection below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1.   Claims 1-2, 5-8, 11-13, and 15-16 rejected under 35 U.S.C. 102(b) as being

anticipated by Fiete et al. (588112, referred to as "Fiete" herein).

Regarding claim 1, Fiete discloses a method for building a recovery model, the

recovery model being used to reduce a zipper of image data (the examiner notes that

the body of the claim never refers back to "zipper of image" and therefore this part of the

claim is not given weight. Also, the abstract of Fiete discloses reducing streaks in an

image, which the examiner believes reads on "zipper"):

producing a plurality of outputted signals according to a plurality of brightness,

wherein the brightness are not all the same (column 3, lines 47 to column 4 line 24

discloses obtaining pixel data of the image. The system calculates the differences

between the illumination data);

measuring a plurality of differences according to the outputted signals and a

plurality of estimated signals corresponding to the brightness (column 4 line 16 to

column 5 line 41 discloses measuring the differences of the pixel data that correspond

to the illumination data);

establishing an interference model according to the differences (column 5 line 42

to column 6 line 51 discloses creating an interference model which is used to improve

the image quality. The system runs statistical tests to see the quality of the interference

model);

and producing the recovery model according to the interference model (column 6

line 52 to column 7 line 40 discloses finalizing the interference model and creating an

recovery model as a result. The recovery model is then used to output a distorted free

image).

Regarding claim 2, Fiete discloses producing the recovery model through a

mathematic method according to the interference model (column 5 line 47 to column 7

line 34 discloses how the system tests an interference model to see if the statistical

results are accurate and then creating a recovery model from the result. The recovery

model is then used to create a distorted free image).

Regarding claim 5-6, please see the rejection of claim 1 as it discloses all

aspects of claim 5-6. Note that the recovered image is better quality because it has

diminished streaks.

Regarding claim 7, the rejection of claim 1 discloses all aspects of claim 7.

Regarding claim 8, the rejection of claim 2 discloses all aspects of claim 8.

Regarding, claim 11, see the rejection of claims 1 and 6. Also note that Fiete

discloses a processing logic in columns 3 line 51 to column 5 line 46.

Regarding claim 12, the rejection of claim 7 discloses all aspects of claim 12.

Regarding claim 13, please see the rejection of claim 2 as it discloses all aspects

of claim 13.

Regarding claim 15, the rejection of claim 5 discloses all aspects of claim 15.

Regarding claim 16, column 7 line 50 to column 11 line 25 discloses a software

program.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 3-4, 9-10, and 14 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Fiete in view of Bolin et al. (5751844, referred to as "Bolin" herein).

Regarding claim 3, Fiete discloses all aspects of claim 3 except for using a

neural network.

Bolin discloses using a neural network (see figure 15 and column 14 line 28 to

column 15 line 7, as it discloses using a neural network to solve for brightness issues in

an image).

It would have been obvious at the time of the invention to one of ordinary skill in

the art to include in Fiete a neural network means as taught by Bolin. The reason for

the combination is because it makes for a more robust system that is able optimize the

brightness distribution of an image by using a common and efficient statistical method.

Further, note that both inventions are from the same field of endeavor of image

correction.

Regarding claim 4, Bolin discloses that the Neural Network method comprises:

setting a tolerance value; inputting a plurality of input data into an initial model;

producing an output data from the initial model; modifying the initial model according to

a difference of the output data and the input data; and outputting the modified model as

the recovered model (please note that these are standard steps that any neural network

must follow. Bolin Column 14 lines 28-45 discloses setting a tolerance value. Column

14 lines 46-58 disclose inputting the data. Column 14 lines 59-65 disclose producing an

output based on the correction done by the neural network. And finally, column 14 line

59 to column 15 line 7 disclose outputting the result).

Regarding claim 9, please see the rejection of claim 3 as it discloses all aspects

of claim 9.

Regarding claim 10, please see the rejection of claim 4 as it discloses all aspects

of claim 10.

Regarding claim 14, the rejection of claim 3 discloses all aspects of claim 14.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hadi Akhavannik whose telephone number is 571-272-8622. The examiner can normally be reached on 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian P. Werner can be reached on 517-272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HA
1/25/08

BRIAN WERNER
SUPERVISORY PATENT EXAMINER